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Annual Report 1985

Province of British Columbia
Ministry of Agriculture and Fisheries
Hon. John L. Savage, *Minister*

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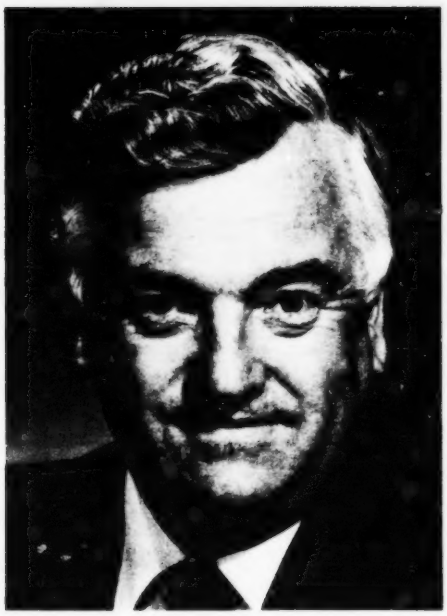

To the Honourable
Robert Gordon Rogers
Lieutenant-Governor of the
Province of British Columbia

MAY IT PLEASE YOUR HONOUR

I have the honour to submit for your consideration the Annual Report of the Ministry of Agriculture and Fisheries for the year 1985.

John L. Savage

John L. Savage
Minister of Agriculture and Fisheries

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BC

Ministry of
Agriculture and Fisheries

AGRICULTURAL REGIONS

REPORT OF THE DEPUTY MINISTER

To the Honourable John L. Savage
Minister of Agriculture and Fisheries

Sir:

I am pleased to present the 1985 Annual Report of the British Columbia Ministry of Agriculture and Fisheries. This report summarizes the activities of your staff for the 12 months ending December 31, 1985.

Overall, B.C. farmers had a relatively good year in 1985. After the strong recovery experienced in 1984, farm cash receipts rose to a record level of $1.01 billion, 3.5 percent above the previous year. Net farm income was also up about nine per cent to $187.6 million.

However, while those statistics were encouraging, some serious challenges faced the B.C. agricultural industry in the form of low commodity prices, changing economic conditions, pressures imposed by the actions of other countries as well as shifts in consumer demands. Adverse weather conditions also played havoc with some producers' revenue in 1985.

This is a period of adjustment for the agri–food sector, a time when new market realities dictate new approaches, the development of new products and the adoption of new technology. In 1985, our Ministry assisted the agri–food industry to develop a three–part strategy focusing on increased market awareness, enhanced productivity and increased production of high–value and higher value–added products.

Ministry executive and staff worked closely with the industry to help producers and food processors to open new export markets, sell more B.C. products to the provincial food service sector, adopt new technology in a number of commodity sectors and improve their farm management skills.

A new opportunity for B.C. has opened up with the rapid growth of the aquaculture industry. In 1985, our ministry assumed the role of "Lead Agency" within the provincial government with responsibility for co–ordinating government programs to assist the aquaculture industry to grow.

The B.C. agriculture and food industry functions in a competitive environment. But the challenges presented by that environment also create new opportunities for growth and development.

Respectfully submitted,

G.A. MacEachern, Ph.D.
Deputy Minister

AGRICULTURE AND FOOD IN B.C. AN OVERVIEW

The British Columbia agriculture and food sector functions in a rapidly–changing environment characterized by unpredictable economic conditions, low market prices, rising international protectionism and subsidization and changing consumer demand.

The industry has had to adjust to these challenges both to avoid or reduce the disruptive influences as well as to take advantage of new market opportunities which have emerged.

In 1984, the Ministry of Agriculture and Fisheries* undertook a major review of industry prospects in the context of these prevailing conditions and determined that there was potential for real growth provided there was some restructuring and re–orientation. The Ministry forecast that over a five–year period there could be a 25–percent increase in agricultural economic activity and the provision of an additional 15,000 to 20,000 new jobs in the agri–food sector.

The B.C. industry has some unique characteristics which translate into distinct advantages in terms of selling more products at home, replacing those currently imported, as well as capturing new markets both in B.C. and abroad. Only about four percent of B.C.'s land base is suitable for agriculture but the province's geography, with a wide variety of growing conditions, allows for the production of a greater diversity of agricultural products than many other Canadian provinces.

It is this diversity plus the small scale of most operations and the province's location which gives the B.C. agriculture and food sector much–needed adaptability. In today's world, it is important to have the flexibility to adopt new technology and produce new products which cater to shifting consumer demands. Market awareness has become increasingly critical in the drive to keep agricultural production and food processing in tune with those consumer needs.

This new market environment has prompted various adjustments on the part of the industry and a major re–orientation of government policy and programs to better support the agri–food industry in its future development efforts.

** In August, 1986, the ministry's name was changed from Ministry of Agriculture and Food to Ministry of Agriculture and Fisheries. During the time period covered by this report (1985) the Hon. Harvey Schroeder was Minister of Agriculture and Food.*

B.C. MINISTRY OF AGRICULTURE AND FISHERIES MANDATE

MANDATE

B.C.'s agriculture and food industry — from producers to retailers— is facing both major challenges and new opportunities, as the result of fundamental changes in our economy, increased internalization of markets, and changing consumer tastes. The role of the B.C. Ministry of Agriculture and Fisheries is to provide programs and services to assist the industry to achieve its goals, so that the value of the industry to the B.C. economy will continue to increase.

In 1985, the ministry continued to change its program objectives to meet changing needs of the industry—a process which was started two years ago. Emphasis was shifted from maintaining existing agri–food production, to assisting the industry to improve competitiveness and working with the industry to establish an aggressive marketing program aimed at specific market opportunities. The emphasis of ministry programs is directed towards increasing market awareness, enhancing productivity and increasing the production of high value and higher value–added products.

PROGRAMS

New program initiatives addressing these objectives in 1985 were administered through four main Ministry programs:

1. *Extension and Education*: delivers programs and services designed to help those in the industry learn new skills and adopt new technology;
2. *Regulatory Services:* establishes and enforces regulations and standards governing animal and plant health aimed at maintaining high–quality, safe food products and production;
3. *Financial Assistance:* administers programs designed to encourage investment and development, reduce risk and the impact on income of uncontrollable factors such as weather and fluctuations in price and cost,
4. *Direct Services:* provide specialized laboratory and product analysis services not available from the private sector.

Most of these programs are delivered to the agriculture and food industry through Field Operations and Financial Assistance Programs. Field operations staff deal directly with farmers by providing "front line" advisory and demonstration services. Financial assistance programs are provided to producers mainly to reduce the harmful impacts of large deviations in market returns or of natural hazards. Two other areas, Policy Development and Economics, and Adminstrative Services, provide support services to ministry staff, and , to some extent, to the agri–food industry.

The ministry's budget for 1985 was $72,555,717.00. A breakdown of budget expenditures is provided in the following table. Approximately 70 percent of ministry staff work in Field Operations and Specialist and Regulatory Services, about 10 percent in Financial Assistance and the remaining in administration and support services. For more information about ministry organization, see page 36.

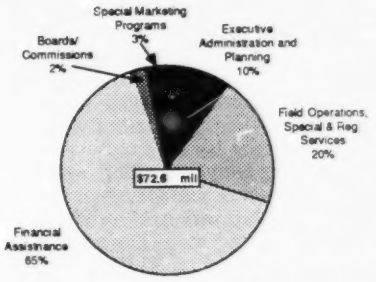
TABLE ONE

MINISTRY EXPENDITURES

	1984/85	1985/86
Minister's office	172,391	179,524
Executive Administration & Planning	6,724,038	7,412,724
Field Operations/Specialist and Regulatory Services	15,066,468	14,599,854
Financial Assistance Programs	44,056,287	39,720,937
Ministry Operations	***66,019,184***	***61,733,515***
Milk Board	246,699	289,731
Provincial Agricultural Land Commission	782,316	1,023,665
Economic Renewal		
Agricultural Marketing and Food Industry Development	—	1,807,955
Cattle Horn Act	—	96,727
Livestock Drought Assistance	—	2,250,000
Red Wine Assistance	—	2,724,600
Crop Drought Assistance	—	2,450,000
Total	***67,048,199***	***72,555,717***

FIGURE ONE

MINISTRY EXPENDITURES 1985–86


Special Marketing Programs 3%
Executive Administration and Planning 10%
Boards/ Commissions 2%
Field Operations, Special & Reg Services 20%
$72.6 mil
Financial Assistance 65%

ECONOMIC PERFORMANCE OF THE AGRICULTURE AND FOOD INDUSTRY IN 1985

GENERAL ECONOMIC FACTORS AFFECTING AGRI–FOOD PERFORMANCE

Performance of the agri–food sector was influenced to a great extent by the world economy, and more specifically by the performance of the British Columbia economy. In 1985, the B.C. economy grew by about 3.5 percent, compared to 1.8 percent in 1984. This growth was largely as a result of much higher consumer spending brought about by somewhat higher employment, improved personal incomes, and a lower inflation rate. Investment spending, however, continued to lag due to excess production capacity and depressed export markets.

AGRICULTURE AND FOOD SECTOR PERFORMANCE

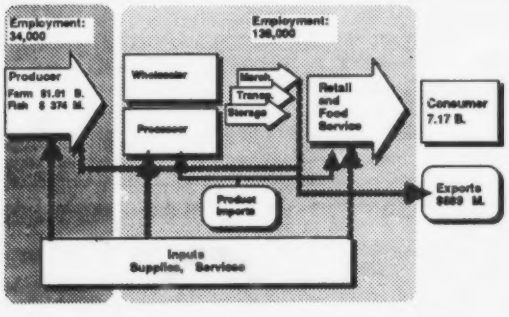
Compared to past years, 1985 agri–food performance in B.C. was satisfactory. Although prices for crops and livestock were generally soft, total farm cash receipts rose 3.4 percent to reach a record level in 1985 of $1.01 billion. Farm net income rose 9.5 percent to a record $187.6 million. Increased production in certain sectors and increased total government financial assistance contributed to this general economic improvement.

Also contributing were lower interest rates, energy prices, inflation and input costs.

The lower value of the Canadian dollar (73¢ U.S. – 1985, 77¢ – 1984) also had the effect of increasing B.C. agri–food product competitiveness on export markets. It also encouraged more tourists to B.C. and therefore more spending on goods and services including food.

FIGURE TWO

BRITISH COLUMBIA AGRICULTURE AND FOOD SYSTEM



FOOD PRODUCTION

Crops Sector

Crop receipts to farmers increased by 7.1 percent, despite substantial declines in returns from grains and oilseeds. This sharp fall is due largely to bad weather during the growing and harvest season that caused poor yields and grades. This triggered substantial payments under the federal Western Grain Stabilization Act, federal–provincial crop insurance and other special relief programs (see detailed statistics in table on page 9).

Returns from fruits and vegetables were mixed. Apple production dropped substantially (15 percent) while prices rose slightly. Vegetable prices and production were generally improved, although potato prices were depressed. Floriculture continued to show health gains.

Livestock Sector

Livestock receipts to producers increased by 1.1 percent from the year earlier. Cattle and hog prices were generally lower although total marketings were up due to sell–offs and some liquidation to maintain operations.

Dairy receipts continued to increase, reaching a record $234.7 million in 1985. This was due to slightly higher milk production and higher prices. B.C. producers re–enrolled in the national market share quota (MSQ) plan for industrial milk, resulting in federal supplementary payments totalling $9.9 million.

Poultry receipts increased slightly due to higher production and sales, despite price declines in meat. Egg receipts declined due to quota cutbacks and a slight price drop.

Sheep and lamb receipts were up substantially reflecting an increase in production and marketings.

Receipts from honey production fell by 16.5 percent from 1984 due mainly to lower production caused by depressed honey prices, and fewer hives because of extreme drought conditions.

Farm Operating Expenses

Farm operating and depreciation costs dropped for the second time in over a decade. Wages continued to be the largest single expense item, rising 4.0 percent from a year ago. Interest on debt, which for several years was the largest expense item, dropped 3.8 percent, due to lower interest rates for the second consecutive year. Feed costs were also down while machinery, taxes and other maintenance costs were up.

The combination of generally lower land values, depressed commodity markets, bad weather, and farm debt totalling $1.434 billion (up from $1.432 billion in 1984) increased the need for government support to B.C.'s farmers.

Farmland, Number of Farms and Employment

The area of cultivated farmland declined in 1985 to an estimated 2,013,000 acres, down by 7.2 percent from 1984. The number of farms in B.C. remained at 20,000 farms. Employment in agriculture expanded to 36,000 in 1985 from 34,000 the previous year, with the increase occurring largely in paid labour and in employers using more hired labour.

FOOD MANUFACTURING

Firm Numbers and Shipments

Available statistics indicate that as of December 1985 there were 308 manufacturers of food and beverages in B.C. (This figure now excludes most bakeries and other minor food processors previously included in the manufacturing totals.) With increased consumer spending in the economy, the factory value of agricultural commodities sold by food and beverage firms alone expanded to an estimated $2.75 billion, an increase of one percent over 1984.

Employment

The number of employees working in the food and beverage industry declined in 1985 to 19,400 from an estimated 21,000 in 1984. Total wages and salaries paid increased six percent over 1984.

FOOD RETAILING

At the retail level, sales by the B.C. food service industry (restaurants, caterers and taverns) reached an estimated $1.53 billion up by 7.2 percent from the 1984 level. Total personal expenditures on food and beverages in B.C. were estimated at $7.17 billion in 1985.

The overall growth in food demand by consumers was encouraged by the increase in employment and real incomes, combined with the fact that retail food prices did not increase as much as the inflation rate.

In 1985 B.C.'s retail food prices increased by 2 percent, well below the increase in the slowing inflation rate. High meat production and crop harvests in Canada and B.C. were primarily responsible for the small food price rise. Much of the increase was in the price of food purchased in restaurants which rose 3.1 percent as compared with a 1.6 percent increase in the price of food purchased in stores. Among food groups, there were price increases of 1.6 percent in meats, 1.3 percent in beef, 0.7 percent in poultry, 2 percent in fruit, 2.4 percent in dairy products and, 1.5 percent in eggs and a decline of 8.7 percent in fresh vegetables.

TABLE TWO

KEY ECONOMIC INDICATORS, BRITISH COLUMBIA

	Units	1984	1985	% Change
Population	'000s	2,857.9	2,884.7	+1.0
Number of Farms		20,000	20,000	0.0
Food Manufacturing Shipments	$mil.	2,720	2,750	+1.1
Estimated Cultivated Farmland	acres	2,406,520	2,013,000	–16.4
Farm Expenses & Deprec. Charges	$'000	814,729	814,111	–0.0
Farm Cash Receipts	$'000	976,749	1,010,451	+3.5
Milk Sold Off the Farm	'000 L	479,916	483,167	+0.7
Poultry Meat Production	$'000	87,733	91,659	+4.4
Stewing Hens & Chickens	'000 kg evic.	46,756	49,977	+6.9
Egg Production	'000 doz.	58,684	58,170	–0.9
Apple Production	'000 lbs.	320,930	305,028	–5.0
Vegetable Production Receipts	$'000	72,935	77,583	+6.4
Floriculture & Nursery Receipts	$'000	51,945	58,750	+13.1
Honey Production	tonnes	3,029	2,035	–32.8
Cattle Numbers (July 1)	'000	760	710	–6.6
Hog Numbers (July 1)	'000	272	98	–64.0
Sheep Numbers (July 1)	'000	61	55	–9.9
Spring Wheat Production	kgs/ha	2,090	1,490	–28.7
Canola/Rapeseed Production	kgs/ha	860	610	–29.1
Barley Production	kgs/ha	2,040	1,620	–20.6
B.C. Farm Prices Index	1981=100	106.5	105.4	–1.0
CPI Food (Vancouver)	1981=100	118.5	120.9	+2.0

Source: Statistics Canada

FIGURE THREE

BRITISH COLUMBIA AGRICULTURE AND FOOD INDUSTRY 1975 TO 1985

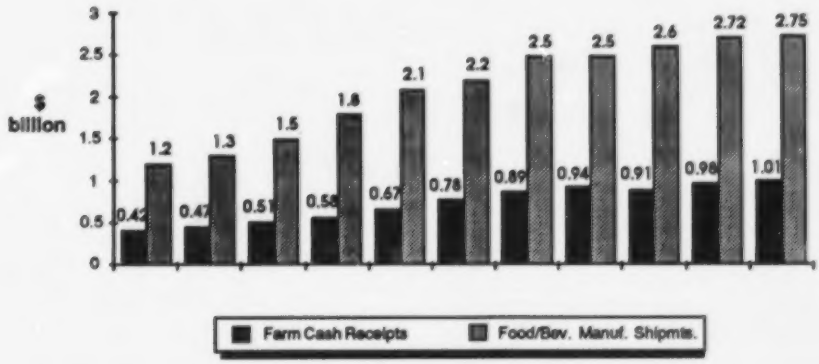


TABLE THREE

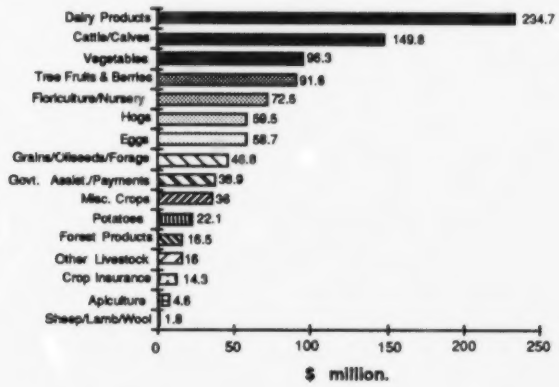
BRITISH COLUMBIA FARM CASH RECEIPTS
1984 and 1985
($000)

	1984	1985	Percent Change 1984/85
Wheat	22,682	16,339	–28.0
Oats	1,956	1,177	–39.8
Barley	9,467	10,355	9.4
WGSA Payment	1,529	3,400	122.4
Crop Insurance	11,041	14,310	29.6
CWB Adv/Repy/Liq/Defer	–145	3,220	2,320.7
Rye	728	145	–80.1
Canola	12,514	10,153	–18.9
Potatoes	22,052	22,123	0.3
Fruits	86,956	96,331	–10.8
Vegetables	72,935	77,583	6.4
Floriculture & Nursery	51,945	58,750	13.1
Miscellaneous Crops	33,159	36,078	8.8
TOTAL CROPS	***326,819***	***349,991***	***7.1***
Cattle and Calves	148,280	149,590	.9
Hogs	47,307	46,847	–1.0
Sheep, Lambs, Wool	1,956	1,850	–5.4
Dairy	228,222	234,731	2.9
Poultry	87,733	91,659	4.5
Eggs	62,921	59,537	–5.4
Honey	5,582	4,655	–16.6
Other Livestock	16,340	16,095	1.5
TOTAL LIVESTOCK	***598,341***	***604,964***	***1.1***
Forest	16,426	16,541	.7
Prv. Income Stab.	26,761	20,809	–22.2
Dairy Supp. Pymt	19	9,894	51,973.7
Deficiency Pymt	8,383	4,280	–48.9
TOTAL RECEIPTS	***979,749***	***1,010,451***	***3.5***

Source: Statistics Canada

FIGURE FOUR

BRITISH COLUMBIA FARM CASH RECEIPTS 1985



B.C. Farm Cash Receipts 1985
Total: $1.01 bil.

TABLE FOUR

BRITISH COLUMBIA DISTRIBUTION OF FARM CASH RECEIPTS 1985

	$ thousands	Percent
Grain and Oilseeds	59,099	5.9
Vegetables (& Potatoes)	99,706	9.9
Fruit	96,331	9.5
Specialty Crops	94,828	9.4
Cattle and Calves	145,590	14.8
Hogs	46,847	4.7
Dairy	234,731	23.6
Poultry & Eggs	151,196	15.0
Other	78,123	7.7
TOTAL	***1,010,451***	***100.00***

Source: Statistics Canada

FIGURE FIVE

BRITISH COLUMBIA
PERCENTAGE DISTRIBUTION OF FARM CASH RECEIPTS
1985

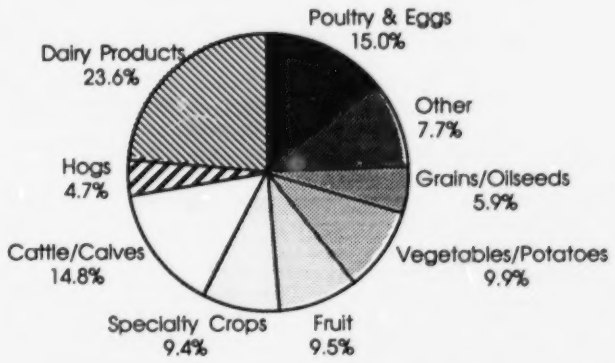


TABLE FIVE

BRITISH COLUMBIA FARM EXPENSES AND DEPRECIATION CHARGES
1984 and 1985
($000)

	1984	1985	Percent Change 1984/85
Taxes	14,905	14,517	2.6
Gross Farm Rent	16,519	17,461	5.7
Wages	134,216	147,3401	5.4
Interest	139,137	129,098	–3.8
Total Machinery Cost	100,828	103,5321	2.7
Fertilizer and Lime	26,863	30,689	14.2
Other Crop Expenses	34,172	36,113	5.7
Feed	126,439	121,255	–4.1
Other Livestock Expenses	21,909	19,273	–12.0
Repairs to Buildings	12,652	13,955	10.3
Electricity and Telephone	21,019	22,555	7.3
Miscellaneous	55,804	49,921	10.5
TOTAL OPERATING EXPENSES	***705,148***	***705,709***	***–0.1***
Depreciation on Buildings	35,182	33,423	–5.0
Depreciation on Machinery	74,399	74,979	0.8
Total Operating Expenses and Depreciation Charges	***814,729***	***814,111***	***–0.1***

Source: Statistics Canada

FIGURE SIX

BRITISH COLUMBIA FARM COSTS
1985

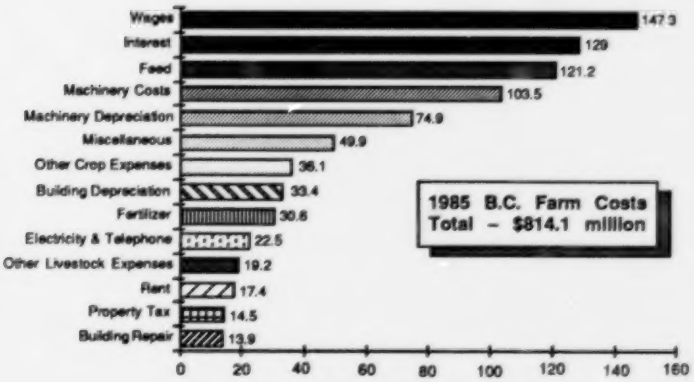


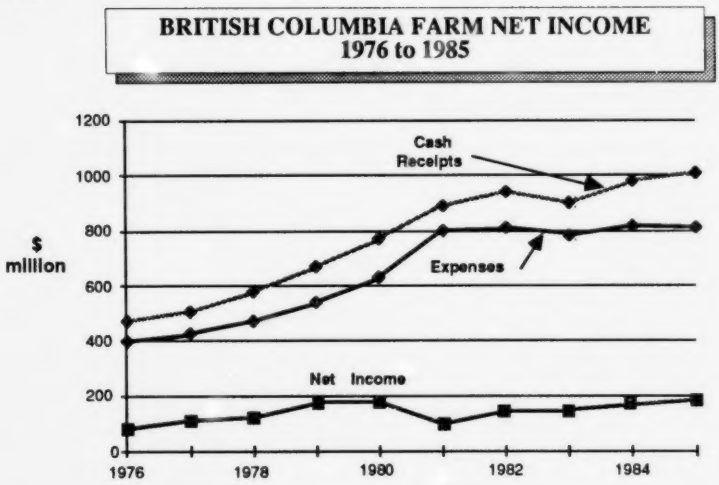
TABLE SIX

BRITISH COLUMBIA FARM NET INCOME
1984 and 1985
($000s)

	1984	1985	Percent Change 1984/85
Farm Cash Receipts	976,749	1,010,451	3.5
Income in Kind	23,245	19,883	-14.5
Realized Gross Income	999,994	1,030,334	3.0
Expenses and Depreciation	814,729	814,111	-.1
Realized Net Income	185,265	216,223	16.7
Value of Inventory Change	-13,890	-28,592	-105.9
TOTAL NET INCOME	***171,375***	***187,631***	***9.5***

Source: Statistics Canada

FIGURE SEVEN



1985 INITIATIVES

Ministry programs in 1985 focused on assisting the industry to improve market awareness, adopt new technology and develop new products, with the emphasis on high–value and higher value–added products. Some of the more significant industry achievements which were facilitated by ministry programs included a dramatic increase in the number of fish farms in production; a 10–percent increase in sales by B.C. companies to the food service sector, and the increasing success of export development projects in attracting buyers from around the world.

NEW MARKETS – NEW OPPORTUNITIES

Marketing was a key point of emphasis for Ministry programs in 1985 with the stated objective of helping the industry become more competitive in the world marketplace and capture new opportunities.

The Marketing Branch continued to help industry entrepreneurs through its programs of advertising, promotion and marketing advisory services, the compilation, publication and analysis of market data and the dissemination of marketing information concerning all facets of the province's agriculture. The branch worked closely with numerous commodity groups and businesses over the year with the intent of developing new products, markets and systems which would improve the competitiveness of B.C. agricultural products. The branch works closely with the food processing industry to help it make use of the most up–to–date technology. The branch is also responsible for the application of the regulations under the Agricultural Produce Grading Act to ensure high quality and safe foodstuffs are available to consumers.

In 1985, Field Brand Recording was transferred to the Marketing Branch. This program ensures correct ownership and thus allows cattle producers to market livestock effectively. It also provides statistics on livestock marketing for planning purposes.

In March 1985, the Export Market Development Branch was established to initiate market development activity and co–ordinate trade programs and other initiatives. The Branch assists commodity producers, food processors and producers of other agricultural products to market their products and agricultural technology to other countries.

Prior to the establishment of the Branch, ministry staff and private sector agri–business executives participated in Agro–China '84, a major agricultural trade show held in Guangzhou, China in November, 1984. Emphasis at this show was on promoting the capability of B.C. companies in the fields of dairy, beef and swine genetics and management, greenhouse technology, rangeland development and rehabilitation and tree fruit production and handling technology. Sales leads gained at the show were passed on to the private sector and a day–long seminar highlighting business opportunities in China and how to access them was held in Vancouver in January, 1985.

In April, 1985, the Branch assisted Pacific Rim Foods Inc. in negotiations with various Chinese agencies on a $120–million proposal to develop the fruit industry in Liaoning Province. The company also received help in introducing their services to citrus production organizations in Xinhue County, Guangdong Province. At this time, assistance was also given to Keep Rite Co. Ltd., suppliers of cold storage facilities, which resulted in the sale of a major fruit storage facility to Xinhue County. A subsequent visit to British Columbia in September, 1985 by Xinhue officials may result in additional sales of storage units.

In June, 1985, the Minister led a team of several private industry organizations on a mission to various parts of China. The objective was to meet with officials of the Chinese Ministry of Agriculture and Fisheries in Beijing to follow–up on the recently–negotiated Animal Health Agreement between China and Canada which facilitates the sale of breeding stock, semen and embryos to China.

Seminars were held in Beijing to introduce B.C.'s capability in livestock genetics, forage seeds and rangeland technology. The Minister also met with officials of the Agricultural Development Bank of China to seek their support for British Columbia initiatives in China.

Discussions are continuing with Qinghai officials, IMW Industries Ltd. and the Canadian Imperial Bank of Commerce regarding a comprehensive program to introduce the B.C.–designed rangeland reseeder and related forage management technology. An agreement was signed between the BC Artificial Insemination Centre and the Liaoning Department of Agriculture and Animal Husbandry to purchase dairy semen and dairy embryos and several dairy cattle over a five–year period. The agreement involves training by B.C. technicians and a commitment on the part of the Chinese to market B.C. genetics in Liaoning and other provinces in northeastern China. A similar agreement is being negotiated with governments in Zhejiang Province.

Arrangements are being made to work more closely with Malaspina College in a language–training program for employees of B.C. companies dealing in the Pacific Rim.

An Export Market Directory, listing B.C. companies with products and know–how for overseas sale, will be ready for publication in mid–1986.

The ministry initiated plans for Food Pacific '86, an international food trade show to be held at B.C. Place Stadium, August 29 to September 2, 1986. A crown corporation, B.C. Food Exhibitions Ltd., was established to manage Food Pacific '86 and any related government activities. About 600 exhibitors from countries around the world are expected to display the latest in food products and processes before an estimated 18,000 buyers and trade visitors. The exhibit is focusing on the large and expanding Pacific Rim market which accounts for $139 billion in annual food trade sales – the largest of any market in the world. More than 63 B.C. companies are expected to participate. The ministry is providing a special B.C. food pavillion to allow provincial processors and wholesalers to meet potential customers and demonstrate their products.

The ministry also worked closely with the Ministry of International Trade and Investment and a team of aquaculture industry representatives in organizing a tour of Norway and the United Kingdom to attend a world aquaculture symposium in Norway and study the aquaculture industry in both countries.

The aquaculture industry is seen as one of the major growth areas in B.C. food production over the next decade. The ministry, named the provincial government's "lead agency" for aquaculture development, is developing strategies and programs to assist the industry in its extension, fish health, farm management and marketing needs.

NEW PRODUCTS – NEW PROCESSES

In 1985, the ministry developed new programs and staff worked on many initiatives designed to assist food producers and processors to develop high-value, speciality items, as well as higher value-added products, those requiring further processing to meet a consumer demand.

Growers planted kiwifruit for the first time on a commercial scale on southern Vancouver Island. Tayberries, Chinese specialty vegetables, rabbits for meat and fababean silage are also being produced with some success. About two hectares of ginseng have been planted in the Spences Bridge area. The ministry is assisting growers in determining cultural strategies for ginseng production with particular reference to micro–climate control, nutritional requirements and disease and insect problems.

The first commercial production of about 100,000 pounds of specialty mushrooms took place in 1985. This industry, which produces mainly Oyster and Shitake mushrooms, has production potential of 500,000 pounds in 1986 and could be valued at $4 million by 1990. The B.C. Hazelnut Growers' Association worked closely with ministry staff on expansion, market development and standardization of grading. A publication, Nut Culture in B.C., was printed and a field day held. As the result of ministry field trials, the first crop of hybrid sunflower seed in B.C. will be produced commercially in 1986. As well, vegetable seed production is being re–established on the Lower Mainland.

A two–day seminar called Food Frontiers – the Research and Development Challenge was organized by ministry staff and attended mainly by food company executives. Since the seminar, a number of B.C. firms have become more actively involved in research and development, often in co–operation with firms or organizations whose representatives they met at the seminar. It is planned to make these seminars an annual event, using different themes each year.

ARDCORP, the B.C. Federation of Agriculture's Research and Development Corporation, received a grant of $30,000, about 50 percent of the estimated cost for research into the package preservation of fresh fruit. The project is being conducted by the Department of Food Sciences at the University of British Columbia with participation from blueberry, raspberry, strawberry, cranberry and tree fruit grower organizations. The objective is to develop a method for preserving fresh fruit using modified atmosphere packaging techniques so that a fresh appearance and flavor are retained up to eight months.

The ministry initiated a number of programs in 1985 which assisted the industry to develop new products and new processes. They included:

- The Agri–Food Regional Development Subsidiary Agreement (ARDSA): a five–year, federal/provincial program providing a total of $40 million to provide assistance with projects in the areas of productivity enhancement, resource development and commodity development;
- The Food Industry Development Program: designed to help increase the sale of B.C. products in the provincial food service sector through the provision of grants for the purchase of specialized equipment and developing marketing techniques for new products.

Thirty–one applications for assistance were approved and grants awarded totalling $466,000. An estimated 63 person years of employment were expected to result from implementation of the 21 approved projects. During 1985, there was a 10–percent increase in B.C.'s share of the food service market.

- The New Technology Assistance Program: aimed at helping greenhouse operators increase productivity by adopting new energy–saving and yield–enhancing technology.

Grants totalling $1.18 million were given to 66 projects – private investment in these projects from greenhouse operators was projected to be $6.5 million. Most of the projects were to improve heating systems by converting to wood waste fuel, upgrading boilers or installing root zone heating. Other projects involved thermal blankets, computers systems and double glazing.

- Agricultural Land Development Assistance (ALDA): initiatives were underway to broaden the scope of this financial assistance program to cover not only development, irrigation and drainage of primary land but also renovations to existing operations and adoption of more intensive production methods.

As well as these new, industry–wide programs, new production techniques and processes were developed and tested by individual crop and livestock specialists, with district extension staff involved in helping farmers adopt these new techniques. These are described in the following section.

IMPROVING PRODUCTIVITY

Ministry commodity specialists and district extension staff worked with commodity producers in 1985 to help them improve their market awareness, adopt new technology and develop new products. As well, a number of special financial assistance programs were developed to assist commodity producers facing difficult financial circumstances.

The province's highly–diversified agriculture industry supplies more than 80 individual farm products and produces the equivalent of 56 percent of the food consumed in B.C. In terms of cash receipts, the dairy industry is the largest with about 25 percent of primary product sales, followed by cattle and calves, and poultry and eggs, both sectors accounting for about 15 percent of total cash receipts.

One of the more rapidly–growing commodity sectors is aquaculture, particularly the farming of salmon which accounted for about 36 percent of the $5 million in aquaculture product sales for 1985.

The following is a commodity–by–commodity review outlining each sector's performance for 1985, ministry involvement in terms of programs or services, and industry objectives. Programs which cannot be categorized by commodity, or which served a variety of producers, are discussed in the following section, Other Programs.

LIVESTOCK

Beef

Low beef prices early in 1985 and regional drought, resulting in higher feed prices, placed financial pressure on many beef producers. Cow sales increased, with beef cow numbers dropping by seven percent to 210,000, and many part–time producers were eliminated from the industry.

Several ministry programs are aimed at helping beef producers improve their profitability. The joint federal–provincial beef Record of Performance (R.O.P.) testing program is designed to advance beef cattle genetics through herd evaluation and performance testing of bulls. Slow but steady improvement over 10 years has resulted in a 10–percent increase in production per cow in participating herds. About 200 beef producers enrolled in Beefup, a herd management program developed by the ministry in co–operation with the B.C. Cattlemen's Association.

The aim of Beefup, a herd management program, is to help producers increase production and revenue potential 15 to 20 percent in five years by identifying key areas of profitability in their operations.

The Marketing Branch assisted beef producers in the Peace River region in setting up a very successful series of on–farm sales. The cattle sold were in better condition and received higher prices than they would have had they been transported to auction yards. The ministry worked with bank managers and loans officers to familiarize them with beef operations to help them improve their service to farmers.

A federal–provincial Livestock Drought Assistance Program was established for livestock producers in the Omineca, Peace River and Prince George faced with the prospect of selling off their breeding stock due to lack of feed caused by drought. A total of 975 operators received $4.3 million in grants of $60 per bred cow and $12 per bred ewe. Fifty percent of the grants were paid by the provincial government.

A complementary program, called Straw for Feed, was set up to encourage grain farmers in the North and South Peace River, Prince George North, Prince George South and Omineca electoral districts to sell straw to livestock producers for feed, rather than burn it or plow it into the soil. The grain producers received a grant of $5 per tonne of straw sold to compensate for the cost of machinery modifications and the loss of soil nutrients.

The ministry further responded to the drought situation with other special initiatives. Farmers attended ministry seminars which dealt with substitute feeds for livestock, stressing nutrition and proper ration balancing. A computer feed listing service was organized province–wide so buyers and sellers could be brought in contact. Fees for feed testing at the ministry laboratory in Kelowna were suspended for farmers in the more severely affected areas so they could make the most economical decision for their situation.

In addition to the usual Farm Income Insurance payments made in the spring (approximately $9 million) to beef producers, an advance of $45 per calf was offered in the fall on calves marketed in 1985. About 350 producers applied for total advance payments of $1.1 million.

Dairy

This is the largest and most stable agricultural industry, accounting for 25 percent of the total, provincial farm cash receipts. In 1985, dairy cow and heifer numbers decreased two percent to 125,000. The province's 1,064 licensed dairy ship-

pers sold more than 480 million litres of milk, about three million more than in 1984. Fluid milk consumption dropped slightly, but high milk prices and supply management ensured financial success.

The Livestock Branch initiated new dairy programs in research co–ordination, held a nutrition workshop for the feed industry and worked with the Economics Branch in developing computer software for dairy production management. Dairy producers participated in tours, the Dairy Short Course, computer workshops and a program for new dairymen on the Graduated Entry Program.

The Dairy Herd Improvement Program (DHIP) works toward herd improvement through identification of genetic merit. The 31,705 cows on test (98 percent of them Holstein) improved milk yield by 78 kilograms (7,231 kg average) and butterfat by six kg (259 kg average) in 1985, the highest in Canada. The B.C. Cabinet gave approval in principle for the transfer of DHIP in 1986 to the B.C. Federation of Agriculture's Agricultural Research and Development Corporation (ARDCORP).

The Farm Milk Quality program ensures that B.C.–produced milk meets standards set by the Milk Industry Act. Somatic cell counts, which indicate milk quality, were improved in 1985 and milk contaminant levels were reduced. Illness and death attributed to contaminated milk products in California and Wisconsin prompted redoubling of efforts by ministry inspectors and those in the industry in B.C. to prevent the development of a similar problem in the province.

The Veterinary Branch is investigating methods of controlling the spread of Salmonella thyphimurium and Salmonella dublin which were being diagnosed in the province. Laboratory results indicate that some strains of Klebsiella mastitis are building a resistance to a wide range of antibiotics. This organism can kill dairy cows, and will reduce milk production potential if the animal survives. The branch developed press information on prevention to lower the incidence of this serious disease

Swine

B.C.'s swine industry was faced with cash flow problems and low prices in 1985. The number of producers dropped by 23 percent to 290, as a result of further consolidation into larger production units. The number of hogs marketed increased 2.2 percent, to 341,749, though prices averaged $3 per hundredweight lower than in 1984. Farm cash receipts were estimated at $46.8 million in 1985. B.C. packing plant kills increased by more than nine percent to 508,000 hogs in spite of the closing of the two B.C. interior packing plants in 1985.

Herds registered in the Swine Record of Performance program showed reduced backfat and improved growth rate, and carcass grades improved by 11 percent over 1984.

The Livestock Branch gave three artificial insemination courses to promote A.I. as a way to improve the genetic merit of the B.C. swine herd. The Branch's Pork Production Home Study Course was taken by 192 producers in 1985. A farm debt seminar for hog producers was held in the Okanagan–Kootenay region.

Sheep

The small B.C. sheep industry had a difficult year, with sheep and lamb numbers declining from 61,000 to 55,000 in 1985. Farm cash receipts were $1.9 million for sheep, lamb and wool.

The sheep Record of Performance program helped participating farmers to improve production efficiency of ewes by increasing weights. Average adjusted 100–day weight rose from 41.6 kg in 1984 to 43.1 kg.

In 1985, the livestock marketing specialist assisted those in the sheep industry in evaluating opportunities for fresh B.C. lamb in ethnic Lower Mainland markets. The potential appears good provided the industry can accommodate the slaughter required. The specialist also completed a series of flock management publications with the publication of a sheep nutrition guide in November, 1985

Poultry and Eggs

Farm cash receipts for poultry and egg production in 1985 totalled $151.2 million. Egg production dropped by about two percent to 52.4 million dozen eggs from 2.3 million layers. Average producer price per dozen dropped three cents to 97.4 cents. Egg quotas for 1986 have been reduced by five percent. Chicken meat production increased 6.1 percent to 44.7 million kilograms in 1985. Producer price decreased 4.5 cents per kilogram to $1.15. Turkey meat production increased to 9.5 million kilograms (87 percent of grower quota allocation). Producer "A" prices again averaged $1.50 per kilogram.

The Veterinary Branch sent warnings to poultry producers about Infectious laryngotracheitis, which has shown up in a few poultry flocks, along with recommended methods of vaccination. If ILT regained a foothold in the province, losses could run to many hundreds of thousands of dollars.

Ministry staff worked with the federal government and the B.C. Egg Marketing Board in developing a new egg quality program which will become regulatory in 1986.

The ministry co–operated with the B.C. Chicken Marketing Board on the Broiler Health Monitoring program which identifies disease and production problems and provides management advice to the B.C. broiler industry. This program was initiated in response to above–average broiler chicken losses and condemnations in B.C. (In 1979, losses to the B.C. broiler industry were calculated at almost $4 million per year). Broiler growers are reporting fewer losses since the program began.

CROPS

Greenhouse

B.C. is ideally suited for greenhouse production, particularly of tomatoes, cucumbers and flowers. In 1985, sales increased by 12 percent to $41 million for ornamentals and to $10 million for vegetables.

Projections are, that with aggressive marketing, the greenhouse industry will double in six years. Vegetable production has the best potential for growth.

The New Technology Assistance Program (Greenhouse) was introduced in 1985 to help greenhouse operators to increase productivity by adopting new energy–saving and yield–enhancing greenhouse technology and techniques in their operations. Grants totalling about $470,000 were given to 31 operators; private investment from those operators in these projects was estimated at $3.6 million. Most of the projects were to improve heating systems by converting to wood waste fuel, upgrading boilers or installing root zone heating. Other projects involved thermal blankets, computers systems and double glazing.

To facilitate growth, ministry specialists worked on several projects involving innovative production methods. These included the design and testing of a new technique for enriching the greenhouse environment with carbon dioxide, at half the cost of liquid compressed carbon dioxide, saving the average grower about $4,000 per year. A new strategy for winter cropping of tomatoes was developed to enable growers to use their facilities in year–round production.

A demonstration project showed growers that plant density of long English cucumbers could be increased sufficiently to save growers $2,400 per hectare of crop. The flat–podded French bean was tested for possible greenhouse production, and was successfully adapted to sawdust culture.

Other greenhouse programs centred on control of pests and diseases. The Crop Protection Branch monitored two, recently–discovered and potentially–devastating greenhouse diseases in the coastal area – crown and root rot and Didymella stem rot of tomato. Each disease currently accounts for a minimum yield loss of five percent and has the potential of becoming much more severe. In 1985, airborne inocula were identified as the major means of greenhouse contamination with the crown and root rot organism.

A fungus that attacks insects was tested as a control agent for the western flower thrips, a pest of greenhouse flowers and vegetables. Excellent control was achieved at high relative humidities but further work is needed to determine if these humidity levels are compatible with other aspects of greenhouse operations.

Engineering Branch staff checked and assisted in the design of 50 greenhouse projects, mainly mechanical systems designed to conserve energy and increase production. It is estimated that the improvements resulting from these projects will save growers $1 million annually by reducing energy costs and increasing production.

The Information Branch prepared two videotapes on European greenhouse production showing new varieties and the latest technology in energy efficiency and automation.

Nursery

In 1985, the nursery industry continued to recover from the economic recession. Sales of nursery stock increased 18 percent to $30 million and the industry increased its marketing and public relations efforts.

Ministry fertilizer trials in 1985 determined that application methods can have a significant effect on yields. For example, growth improved when Osmocote was applied by the new dribble method, but better results came with Nutricate by incorporating the fertilizer into the potting medium. In other trials it was found that there can be a 20–percent saving in labour by using simpler rooting techniques.

Following Agriculture Canada's 1972 quarantine on Fraser Valley junipers (one of the hosts of pear trellis rust disease), the ministry developed a clean–up and certification program. In 1985, this program enabled Richmond growers to sell $250,000 worth of junipers, and to continue to ship junipers to eastern Canada and the U.S.

In 1985, the winter moth was finally brought under control. This moth has had a severe impact on orchard and nursery industries as well as home gardens in Victoria and the Saanich Peninsula since 1970. The Crop Protection Branch had allocated $33,000 for a five–year program to collect winter moth parasites in Nova Scotia and release them on Vancouver Island. By 1984, 80 percent of winter moth larvae were infested with parasites and by 1985, populations of the pest had collapsed.

Chemical weed control is essential to commercial crop production. Because of climatic and soil variability and diversity of crops, B.C. producers have a need for herbicides not required elsewhere. Ministry specialists conducted 30 trials to develop local herbicide recommendations primarily for minor ornamental crops and specific vegetables.

Field Crops

Grain and oilseed production was estimated to be about 300,000 tonnes from 275,000 hectares, a decrease of about 35 percent due to a record drought in the Peace River and Central B.C. regions. Canola was most severely affected. Farm cash value was estimated to be $50 million.

There were 2,700 ha of pedigreed forage seed produced in 1985, a decrease of 25 percent due to the drought. The new barley variety, Jackson, was increased by select seed growers. This variety will be available on a limited basis to commercial seed and grain growers in 1986.

The ministry began a number of studies and projects with the objective of increasing farm profits. The need for more reliable weather forecasting was addressed and several projects were aimed at lowering costs of production. In limited trials in the Peace, the new barley variety, Jackson, yielded 15 percent higher and matured one day earlier than the standard variety, Gateway. These features will significantly help producers, particularly in marginal areas.

Staff conducted field trials to identify superior varieties and demonstrate improved crop management practices. Results of initial tests with Canola indicate considerable potential for production in the North Okanagan and Creston districts. Other tests indicate that average yields of Canola in the Peace could be raised about 40 percent from 790 kg/ha to 1,130 kg/ha. The Grow With Canola program was begun with an objective of increasing production at an annual rate of five percent for five years. Better varieties are needed to make this possible.

Forage crops provided an economic source of feed for beef and dairy cattle, sheep and goats. In addition to hay, the provincial forage crop includes silage, improved pastures and range with an estimated total value exceeding $300 million. Forage yields were less than half of normal years in central and northern regions due to drought. Yields of irrigated crops in southern regions were variable with shortages of irrigation water limiting growth in some areas.

An on–going ministry objective is promoting greater use of locally–grown forages, reducing reliance on imported feeds. Several projects in various regions of the province demonstrated and evaluated new forage grasses, quality silage and alfalfa production, including the possibility of alfalfa production on Vancouver Island. The forage competition among South Coastal producers has achieved the desired result of improved quality. Average crude protein content increased from 14 percent in 1980 to 18 percent in 1985.

The Peace River Special Financial Assistance Program provided Peace River grain farmers, who suffered financial difficulties caused by very bad harvest conditions in 1984, with a source of subsidized operating capital for seeding the 1985 crop. The assistance included a guarantee for operating loans contracted through chartered banks and credit unions. The province also paid the interest cost and a grant equal to 10 percent of the principal payments for the first year of the loan, and will pay a five–percent discount on the principal balance if the loan is paid in full by March 31, 1987. The region's lending institutions contracted 355 loans with a total value of $5.5 million. Total program costs over the two–year term are estimated to be $2 million.

Extensive evaluation of alfalfa varieties resistant to Verticillium wilt and bacterial wilt was conducted in many locations from Quesnel to Creston. Results show that Vertus continues to have the highest level of field resistance to Verticillium wilt, which causes losses to alfalfa production amounting to $18 million each year. Introduction of new resistant varieties should cut losses by two–thirds, for a net benefit of about $12 million per year. The new cultivar, Barrier, which incorporates resistance to both Verticillium wilt and bacterial wilt, was tested in 1985 and will soon be licensed.

Crop losses due to weeds exceed $10 million annually and the cost of control is about $8 million. In 1985, the ministry allocated $525,000 to the weed control program. To assist local governments in enforcement of the Weed Control Act, the ministry provided $250,000 in grants–in–aid of local control programs.

Tree Fruits

In 1985, B.C. tree fruit production, 95 percent of which takes place in the Okanagan–Kootenay region, showed a slight decrease from the poor pro-

duction in 1984. Cool wet weather during bud initiation and a severe frost in early October contributed to the poor 1985 crop. A total of 388 million pounds were produced with a sales value of $54 million compared to 389 million pounds in 1984, worth $37 million.

Returns to orchardists for the 1984 crop, sold in 1985, were the lowest since 1974 due to depressed tree fruit prices on oversupplied North American and international markets.

Tree fruit extension programs focussed on economic and financial management concerns as well as techniques to improve fruit quality and lower production costs. Events included farm business management workshops and a seminar for bankers on tree fruit operations.

High–density plantings produce earlier and yield more fruit per acre, and are now seen as the best way to improve net returns to many orchardists. Extension staff conducted several tree pruning demonstrations, since correct pruning can increase fruit quality and production and is critical to the success of high–density plantings. Extension staff have been encouraging the use of dwarfing rootstocks. In 1985, 75 percent of growers chose dwarfing types compared to only 25 percent in 1979.

Magic Circle, a deer repellant registered in the U.S. but not in Canada, was evaluated in an apple nursery at Oyama. No deer entered the nursery and no damage occurred between Oct. 21 and Dec. 30. High–tensile electric deer fences have been used to protect a number of commercial orchards in the Okanagan–Kootenay region since 1982. In 1985, deer behaviour was observed at two enclosed feeding sites in winter range areas, and the fence design improved as a result. Electric fencing is attractive to producers because installation costs are up to 75 percent less than for conventional page wire fencing.

Thirty–one trees with little cherry disease were found and destroyed in the Okanagan during the Crop Protection Branch annual survey, a decrease from the 47 found in 1984. Thanks to this program, the number of diseased trees has decreased annually since 1982. Had the disease become established, returns to the cherry industry could have been reduced to about one–quarter of their present level of $4 million annually.

In the Okanagan, a soil testing service for apple replant disease was provided. The Economics Branch has calculated that income from sites receiving apple pre–plant soil treatments would be $1,893 higher per acre after nine years than from untreated sites. This could mean an increase in net returns to fruit growers of $5 to $10 million over the next 10 to 15 years.

To help Okanagan orchardists experiencing cash flow problems, the provincial government paid out cash advances under the Farm Income Insurance program totalling almost $9 million on the 1984 and 1985 crops. These advances helped farmers pay current operating costs and also alleviated cash flow problems due in part to the time lag, which can often extend over two years, between harvesting and final payment for a crop.

To help the public learn more about the fruit growing sector, Information Services produced an informational film on B.C.'s tree fruit industry, which documented the life of a long–time orcharding family in the Okanagan.

Grapes

Grape production at 15,119 tons was very near the five–year average. Including proportionately small local fresh grape sales, the value of production exceeded $9 million in 1985. Dry, hot weather helped produce a high–quality product. Cold weather in October and December caused damage to some varieties.

The ministry maintains experimental grape plantings in Kelowna and Oliver to evaluate varieties for cold hardiness and wine suitability. A report on the eight–year Becker program to evaluate German varieties was published with recommendations. Thirty–five grape varieties were planted in the Duncan area on Vancouver Island to determine the region's suitability for production.

Because of an over–supply of red wine caused by a declining market, a program was put in place in co–operation with the federal Agricultural Products Board to purchase the 1985 red grape crop, convert it to alcohol and sell it to the wineries. In addition, 600,000 gallons of existing red wine inventory was purchased for conversion to alcohol. At the same time, the provincial Grape Marketing Board offered up to 500 acres of red grape acreage for conversion to other crops, funded in part by the wineries and by the ARDSA program.

Vegetables

The vegetable industry coped well with adverse weather. There was a good commercial potato crop, although there were problems with quality due to drought. Higher production volumes and imports from the northwestern United States resulted in lower returns to British Columbia growers on production sold after Dec. 20. The 1985 seed potato crop was of good quality.

In 1985, the ministry focussed on helping producers adopt new techniques and cropping

options. In the South Coastal region, crops such as asparagus, overwintering onions, snap peas and white processing corn were grown in trials with co–operating growers and processors. In the Okanagan–Kootenay region, variety trails were conducted with corn, onion, potatoes and asparagus. The onion trials confirmed the two varieties recommended in 1984 and added another. A full report on the potato trials was prepared.

Fourteen participants enrolled in the Asparagus Production Incentive Program, which pays a grant to reduce interest costs on loans used to establish new acres of asparagus. Five hundred and thirty acres of asparagus were planted.

A three–day horticulture forum in the South Coastal region attracted more than 400 growers. Innovations in disease and pest control, such as fumigation for cole crop seed beds were demonstrated.

Fifty commercial farms in the lower Fraser Valley and Vancouver Island were surveyed for bacterial ring rot of potatoes. The disease was found and cleaned up on two farms compared to five in 1984, 11 in 1983 and 22 in 1982 when the program began. This is an indication that the field survey, which replaced the old system of inspecting imported potatoes, is helping reduce disease levels. An onion disease survey in the Cloverdale area showed pink root and smut were widely distributed. It was estimated that the combined diseases reduced marketable yield of the $1–million crop by about 10 per cent. Steps will be taken to investigate pink root.

As a result of the work on carrot black root rot, funded jointly by the ministry and the carrot growers, the $1.5–million carrot crop should be safe from unexpected losses. Hydrocooling in chlorinated water within 24 hours of harvest prevented development of black rot. Monitoring methods for carrot rust fly and onion maggot were demonstrated on the Saanich Peninsula, and growers were advised whether insecticide sprays were needed. Spray treatments were reduced on carrot fields and eliminated on onions.

One objective is to evaluate and encourage the use of plastic mulches and tunnels to extend the growing season.

The largest expenditure in producing a vegetable crop is usually for hand harvesting. Minimizing this cost while producing a high–quality product is particularly important in cauliflower production. Major modifications made to the cauliflower harvest aid, a conveyor machine, by the Engineering Branch should result in a 95–per–cent reduction in crop damage and a 25–per–cent reduction in harvest labour compared with hand harvesting.

Berries

1985 was a difficult year for berry producers. Winter damage, poor weather during production and harvest, disease and pest problems and a very sharp reduction in demand by processors due to cheap California imports led to reduced volume and prices for strawberry producers. Prices were below cost of production for the second year in a row, resulting in an expectation of reduced acreage in 1986.

Raspberry growers experienced winter damage, root rot, poor pollination and poor weather during harvest.

Blueberries also suffered from the drought as most growers do not have irrigation systems. Yields were significantly reduced in 1985. However, a strong marketing program by the B.C. Blueberry Co–op raised volumes moving in fresh markets to more than three million pounds at approximately a five–cent–per–pound premium over frozen sales. Final payments for blueberries were 70 cents for fresh and 60 cents for processed, an excellent return in a North American market where there were significantly increased quantities over previous years. Half of the 14 million pounds of blueberries produced were exported. Crop value was about $10 million and is expected to increase rapidly as earlier plantings reach maturity in the next year or two.

The ministry assisted B.C. raspberry growers with documentation concerning an anti–dumping action by the United States against raspberries from B.C., a subsequent application of a countervailing duty by the U.S., the withdrawal of B.C. raspberry growers from the Farm Income Insurance program and the implementation of a levy by the Washington Red Raspberry Commission on B.C. raspberries stored in Washington State freezer facilities. These duty and levy applications cost B.C. raspberry growers approximately $80,000 in 1985.

Bacterial blight of blueberries was tentatively identified in Surrey and Richmond, the first record of this disease in B.C. Interim control measures have been suggested.

Honey

British Columbia's apiculture industry consists of 300 commercial and more than 5,000 home beekeepers with a total of 55,000 hives. The value of all apiculture products and services in 1985 was $4.7 million, a 16.6–percent decrease from 1984, due mainly to lower honey production and fewer hives. The reduction was caused by severe drought and a shortage of operating funds due to low honey prices for the 1984 crop.

The threat of mites and Africanized bees has

prompted ministry efforts to encourage greater provincial self–sufficiency in package and queen bees. B.C. package bee production in 1985 increased 150 percent over 1984 to a value of $128,000. Queen honey bee production increased 44 percent. There is potential for dramatic expansion of this sector, as about 90 per cent of package bees and 70 percent of queen bees are imported from the southern United States. A special series of seminars and field demonstrations taught beekeepers the techniques of package and queen bee production.

OTHER COMMODITIES

Aquaculture

In April, 1985, the ministry was named "Lead Agency" for the development of aquaculture in British Columbia, and a provincial aquaculture co–ordinator was hired. Aquaculture, the farming of fish, shows major potential for growth in the province. The main commodities produced now are oysters, trout and salmon, but potential exists for other species as well. The industry is experiencing rapid expansion in both the number of farms and applications for Crown land. Total producer sales in 1985 were valued at $4.9 million.

The ministry took action in a number of areas which are critical to aquaculture expansion including egg supply, fish health and financial assistance. A Chinook salmon broodstock program was established in co–operation with four salmon farmers, the federal Department of Fisheries and Oceans and the B.C. Research Council. The farmers were given 48,000 Chinook smolts to produce eggs for use by other salmon farmers. The program could result in the production of 13 million Chinook eggs by 1987.

Discussions continued with the federal government on co–ordination of services to the industry with veterinary services and research and development at the top of the agenda. The ministry published information guides for prospective producers in 1985 and material on government financial support programs was prepared for publication early in 1986. Ministry staff worked with lenders to teach them the basics of aquaculture financing. Under the ministry's guaranteed loan program, two guarantees totalling $600,000 were approved for salmon farms. Staff also developed regulations under the Social Services Tax Act to provide aquaculturists with sales tax exemptions on equipment and supplies similar to exemptions for other farm operations.

The industry has identified the potential of the B.C. aquaculture industry to grow from $3 million in 1985 to close to $200 million by the 1990s, with an increase in jobs from 500 to 3,500. The ministry's role in this development will be mainly in the areas of research and development, health management, broodstock and technology transfer.

OTHER PROGRAMS

FIELD OPERATIONS

The ministry is organized into regional extension services and specialist branches, all of which report to the Assistant Deputy Minister, Field Operations.

Regional Extension Services includes four regions which operate 21 district offices in the province. These offices provide advisory and educational programs to farmers and food processors. In 1985, extension programs focused on financial management and production management techniques, aimed at reducing the costs of farming.

In Central/Peace River, staff assisted in organizing special interest groups to investigate improved techniques in oilseed production, soil conservation and forage seed marketing. Staff also worked to help farmers improve forage production and grazing practices through seminars and other educational activities such as forage competitions and on–farm demonstrations.

In Thompson–Cariboo, the region's long–term goals are to review opportunities for alternative cash crops or rotational crops, to find a profitable crop to rotate with alfalfa and to find crops suitable for late fall pasture. 1985 was the third year of a field demonstration program for double cropping silage (barley and corn), and increasing numbers of farmers are using these techniques.

In the Okanagan/Kootenay region, extension programs included several tree–pruning demonstrations, because pruning is critical to the success of some of the high–density plantings now being considered by growers. As well, extension staff were successful in continuing to promote the use of dwarfing rootstocks, chosen by 76% of growers in 1985, compared to 25% in 1979.

In the South Coastal region, extension staff continued to work with growers to encourage development of new crops such as kiwi fruit and grapes on Vancouver Island, fababean silage, specialty mushrooms, chinese specialty vegetables, hazelnuts and overwintering crop production. As well, the region is promoting greater use of locally-grown silage. In the dairy industry, extension staff focused on helping farmers to improve nutrition and to use computer feeders.

The Crop Protection Branch provides growers and ministry staff with current pest control information, and develops ecologically sound methods of insect, plant disease and vertebrate pest management. It administers regulations under the Plant Protection Act, participates in surveys and eradication programs to prevent the introduction and spread of pests, and promotes safety in the use of pesticides.

Staff working in research and extension investigate pest problems, conduct trials, and supply educational information on new pest control developments to commercial farmers through publications and at seminars and field days.

In 1985, the branch worked with a number of growers and grower groups to diagnose and treat pest on crops, and for livestock problems. As well, the branch participated in the federal–provincial Expo plant health committee, which worked with Expo officials to reduce the chance of out–of-province visitors bringing in new plant pests which could be costly to eradicate. The branch also handled a variety of demonstrations on monitoring methods for pests.

The Crop Protection Branch administers and enforces regulations under the Plant Protection Act and Grasshopper Control Act, concerning the prevention and spread of pests.

The Field and Special Crops branch is responsible for specialist services related to all field crops, range management and weeds, as well as for such specialty crops as apiculture, nursery crops and greenhouse crops.

The branch provides specialist services to producers and other ministry staff, as well as carrying out research projects in co–operation with field staff, Agriculture Canada and the University of British Columbia. Combined trial and demonstration plots are used to test and demonstrate the results of new practices, crops, varieties, etc.

In 1985, the branch conducted projects to identify superior varieties, improve soil fertility and pest control and to encourage adoption of new technology aimed at more efficient production.

The branch administers the Weed Control Act, the Seeds Act and the Bee Act.

The Livestock Branch is responsible for the development of programs related to the production of livestock and livestock products. Programs have been designed to assist livestock producers to improve the quality of their livestock and the efficiency of their production. Livestock specialists are available to advise producers, individually or in groups, of the technology and assistance available to them. Assistance and supervision are provided under official test programs, while regulatory functions for the protection of the industry are provided through specific statutes.

The branch supports the administration of regulations under the Cattle Horn Act, the Livestock

Act, the Livestock Industry Act, the Livestock Lien Act, the Livestock Protection Act, and the Milk Industry Act. In 1985 the branch assumed responsibility for the administration of regulations under the Livestock Public Sale Act, the Fur Farm Act, the Meat Inspection Act and the Veterinary Drug and Medicated Feed Regulations pursuant to the Pharmacists Act in cooperation with the Veterinary Branch.

The Veterinary Branch monitors and helps control the spread of animal diseases in the province. The programs help increase production in the livestock industry by encouraging disease prevention, good management and nutrition, and work to ensure a wholesome product for the consumer.

The Veterinary Branch provides a laboratory diagnostic service for veterinarians and livestock and poultry owners and gives advice on the treatment, control and prevention of disease and poor production.

It licenses stores selling veterinary drugs, examines and licenses their dispensers, and controls the drugs and vaccines they sell. It also licenses stores mixing or selling medicated feed. Sales, saleyard operators and auctioneers are also licensed as a means of monitoring or tracing animals for disease control.

The branch also provides an inspection service for meat and meat products in designated geographical areas and in addition inspects products on a referral basis from all over the province

The branch administers seven acts: The Livestock Disease Control Act, the Livestock Public Sale Act, the Meat Inspection Act, the Fur Farm Act, the veterinary section of the Pharmacist Act, the Veterinarians Act, and the Veterinary Laboratory Act.

The Engineering Branch provides advisory services on most aspects of on farm engineering needs for farmers and ranchers, agribusiness and other government agencies. These include pasture renovation and irrigation, drainage, farm buildings (including greenhouses), fencing, waste management, controlling pollution from intensive agriculture operations, land clearing and farm mechanization..

The Soils Branch provides a direct service to farmers and ranchers through its extension services in soil management and conservation. In addition, soils information and advisory services are provided to the B.C. Agricultural Land Commission and other government agencies. The branch is also responsible for the operation of the soil, feed and tissue testing laboratory and the administration of the Soil Conservation Act.

A Rural Organizations and Services Branch was created April 1, 1985, to act as a catalyst for rural development by providing services and support to six organizations: 4–H, Young Farmers, International Agricultural Exchange Association, Federal–Provincial Agricultural Employment Committee, Farmers' and Women's Institutes and the Rural Women's Organization.

The 4–H Club program provides young people and adults with an opportunity to acquire valuable technical skills related to agriculture and homemaking as well as personal growth skills such as public speaking and program planning. B.C. 4–H clubs hosted a tour of 30 Japanese young people, while 23 B.C. 4–H members travelled to Japan. Ten Young Farmers represented British Columbia at a National Rural Youth Conference in Winnipeg. In 1985, 21 young British Columbians travelled to other countries under the auspices of the International Agricultural Exchange Association, and 27 participants from Australia, New Zealand and Western Europe were guests in B.C.

The executive office and co–ordinator of Rural Organizations and Services serves as secretary to the B.C. Agricultural Aid to Developing Countries advisory committee. B.C. government assistance totalling $210,000 was provided to 22 organizations. Projects included a rural potable water system in Ecuador, a flood control and land development project in Mali and a $30,000 contribution to a Canadian Red Cross drought relief project in Niger.

As well, the branch administers operating grants to 58 agricultural fairs and exhibitions. Special grants were also given in 1985 to the B.C. Ploughing Association, the Canadian Western Agribition, the Veterinary Infectious Disease Organization, the B.C. Provincial Seed Fair and the S.P.C.A.

Rural Organizations and Services now administers the D.A.T.E. program, (Demonstration of Agricultural Technology and Economics). This program provides funding for research projects carried out by BCMAF staff. In 1985, 49 projects were funded.

Highlights of the 1985 DATE program were as follows:

- Several projects were devoted to studying forage from the point of view of utilizing new varieties, rotational programs, quality related to harvest time, and the use of high energy forages to reduce reliance on imported barley.

- A study of the effectiveness of high–tensile, high voltage, electric deer fences was carried out in the Okanagan Valley. Orchardists and ranchers will be able to minimize their losses to deer as a result of applying the results of this research.

- Pasture renovation, the development of organic wetlands, and rangeland tillage seeding and management were three projects carried out to demonstrate how agricultural capability can be increased. Costs and procedures used will be of real value to the agricultural community.

- A demonstration planting of Kiwifruit was established on southern Vancouver Island in 1985. The plantings performance exceeded all expectations and optimism is expressed regarding the successful introduction of Kiwifruit into coastal British Columbia on a commercial basis.

- An ongoing project is being carried out to address the suitability of the Duncan area to grape production. The 1983 planting is starting to bear fruit and evaluations are being carried out for both the fresh market and wine varieties.

- Several projects were devoted to the ongoing battle against pests that, in a variety of ways, attack food producing plants and create economic hardship for the farmer. Projects addressed pest problems in carrot, cucumber, onion, and potato crops.

- Vegetable crop diseases were the focus of projects dealing with carrots, onions, parsnips, and cole crops. Losses to disease in these crops will be decreased as a result of D.A.T.E. project research.

- Micro–computers are having a marked impact on the management decisions of farmers and ranchers. Micro–computer projects relating to apple plantings and to the improvement of the beef industry gave producers hands–on experience.

The Soil, Feed and Tissue Testing Laboratory in Kelowna provides analyses which assist crop and animal producers to develop and maintain fertilizing and feeding programs for maximum economic production. In 1985 the laboratory analyzed more than 9,600 soil, 5,100 feed and 2,000 plant tissue samples in support of research, diagnostic and extension programs conducted by ministry staff. In addition the lab analyzed 4,780 soil, feed and plant tissue samples from producers and provided recommendations on fertilizer practices. This figure is down from 9,470 in 1982, an indication that the goal of privatizing fee–for–service testing is being met as increasing numbers of producers use private sector labs. Research staff have developed a method for determining available plant nutrients in soils using only one extracting solution. The "Kelowna solution" replaces six other extractants. This is a significant development in improving efficiency of soil testing.

The role of viruses, trace mineral deficiencies and/or bacterial infections in disease detected by the Veterinary Laboratory resulted in vaccination treatment and management recommendations that benefitted agriculture an estimated $15 million during the year. There were 6,900 laboratory submissions made up of 57,000 individual specimens in 1985. A field investigation veterinarian joined laboratory staff in 1985. He will work with local practitioners to solve herd problems diagnosed from laboratory submissions.

The Dairy and Food Laboratory serves the food industry by providing quality analysis, quantitative chemical analysis and food research. In the past this service has been aimed at the dairy industry but in 1985 it was expanded to serve other food processors, primarily in beverage quality analysis. Laboratory staff assisted in training lab technicians for a number of dairies, familiarizing them with dairy product testing to ensure good quality control procedures in their plants.

In 1985, 827 soil and root samples were processed by the nematode diagnostic service at Cloverdale. Nematodes, tiny worm–like creatures, are particularly damaging to berry and nursery stock, which could not be grown successfully without nematode control. More than 800 samples were received by the ministry's Plant Clinic laboratory, 60 percent of them from commercial growers and agri–business personnel.

PRODUCTION RESOURCES

Land and Water Resources

Many ministry projects are concerned with the efficient use of agricultural resources – including soil and water and inputs such as fertilizer and energy.

Because the small amount of land in B.C. suitable for arable agriculture is in demand for other uses, the Provincial Agricultural Land Commission has the responsibility of preserving it for agriculture. The ministry's Farmland Preservation and Land Evaluation program provides advice to the Commission on the capability of land for agriculture in addition to collecting data and developing methods for evaluating the adequacy of B.C.'s soils and water resources to meet future production goals. In 1985 staff made inspections

and provided technical advice to the Commission on 29 sites. The enhanced fine–tuning program for review of Agricultural Land Reserve boundaries concluded in 1985. A detailed soil survey and irrigation water availability study of Eastern Vancouver Island was completed.

There are about 60,000 ha of agricultural land in the province where excess water adversely affects farm income by lowering crop yields, reducing the growing season and increasing soil compaction. Improved water control on the wetlands of the Fraser Valley would result in at least a $100 million annual increase in farm receipts from improved crop production, a wider range of possible crops and better field access. Agricultural land drainage programs included a water control project at Boundary Bay. In 1985 yields of potatoes and silage corn were increased 48 per cent and 30 per cent respectively by drainage.

If only one per cent of the province's Interior wetland meadows were developed, annual production of an additional $4 million worth of hay would be possible. The ministry demonstration of wetland meadow development at Williams Lake is now complete. The cost of developing a wetland meadow will be significantly reduced if primary tillage costs can be lowered. Work in 1986 will include trials with a custom–designed wetland meadow plow and zero tillage seeding.

While some areas require drainage, many areas of the Thompson–Cariboo, Okanagan and Kootenay regions have a water deficiency and require irrigation. Without irrigation, the Southern Interior of the province has limited agricultural capability. Irrigation has allowed development of the tree fruit and grape industries and allows farmers to produce other crops such as alfalfa, corn and potatoes. Ministry specialists guided growers in the Southeast Irrigation District in scheduling irrigation to achieve top production without wasting water.

A project comparing annual water application by centre pivot irrigation systems with hay crop yields was extended from 1984 to 1985. Results indicate that typical inadequate water application causes a yield reduction of 30 to 50 per cent. Trickle irrigation projects, demonstrating the benefits of chemical and fertilizer injection, are being continued. Optimizing chemical and fertilizer use can save producers $500,000 annually. A trickle irrigation design manual is being written to aid in promoting this technology.

In total, the Engineering Branch was involved in 43 farm and regional water management projects in 1985, involving 15,000 acres with an estimated benefit from improved efficiency and increased crop production totalling $1.75 million annually.

Fertilizer use in B.C. exceeds 100,000 tonnes and costs more than $35 million each year. The manure produced annually by farm animals contains more than 50,000 tonnes of major plant nutrients with a fertilizer value in the order of $31 million. Ministry staff provide producers with guidance on soil fertility and waste management practices to help them achieve maximum economic crop production and prevent soil and water contamination. Research trials were conducted to improve the ability to evaluate the fertility status of soils and to provide more precise guidance on fertilization practices. For example, trial results indicate the efficiency of phosphorus fertilization is increased if most of the fertilizer is applied prior to crop establishment. Field trials measured alfalfa response to lime in the Central Interior. The trials showed that liming is required on some soils to prevent yield loss of acid–sensitive crops. Manure management guidelines have been finalized and will be available in printed form in 1986.

The Soils Branch also gives advice to communities using agricultural lands for disposal of sewage treatment plant effluents and sludges. Staff provided assistance to the City of Vernon on effluent irrigation practices. Effluent storage problems have been reduced to the extent that no discharge into Vernon Creek will be required.

Increases in the size and number of intensive livestock operations have caused severe environmental problems in densely–populated areas of the Fraser Valley and some regions of the Okanagan. Conflicts are so extreme in some areas surrounding the Agricultural Land Reserve that the future of many intensive livestock operations is in jeopardy. Work continued on development of manure handling systems that minimize pollution potential and reduce flies, odor and other nuisances.

Municipal governments are being pressured by growing rural residential populations to pass land–use bylaws severely restricting or prohibiting expansion or development of livestock and mushroom operations. Staff of the Farmland Resources Branch were actively involved in development of important new legislation enacted in December, 1985 as part of Bill 62, the Municipal Amendment Act.

Rules defining "non–conformity" were revised to provide increased protection to existing livestock operators and their right to replace or expand facilities. Section 977 ensures that farmers with land in the Agricultural Land Reserve will be allowed to continue or start intensive agriculture production. This right will be subject to compliance with requirements concerning animal density, setbacks and manure storage, contained in regulations to be approved in 1986. The legislation

also provides local governments with the opportunity to meet with the branch Greenzone Co–ordinator to draft special regulations appropriate to local circumstances. Implementation of this legislation and regulations will be a major program thrust in 1986.

The environment in livestock buildings and its effect on animal health and production continues to be a major concern of producers. The new Ventilation Design Manual, prepared by the Engineering Branch, will be an industry standard. By following recommendations in the manual, producers will save an estimated $3 million annually, due to reduced mortality and increased production.

Continued evaluation and demonstration of high–tensile, smooth–wire fencing has proven its effectiveness to many beef producers. Field days and workshops were conducted at 11 B.C. locations during the year with more than 400 people attending. Producers, transportation utilities and the Ministry of Forests are now installing several miles of new fencing at considerable cost savings.

Regional agricultural land use studies were prepared for several areas, including Dragon Lake, Inonoaklin Creek Valley and the Hazelmere Valley. The Inonoaklin study looked at the costs and benefits of a fishway versus livestock irrigation proposal for the creek, which empties into Lower Arrow Lake. The completed analysis indicated that the best use of the waters of the Inonoaklin would be a multiple use arrangement where both a freshwater fishery and irrigated agricultural lands would be developed. The report is before Cabinet for a final directive.

Two major policy initiatives of other agencies were reviewed to ensure that the best interests of the agricultural sector were recognized. The Ministry of Environment proposed a strategy for water quality management in the Okanagan lakes. This strategy called for better control of phosphorus emanating from agricultural operations. Livestock operations were identified as the major agricultural contributor of phosphorus. During 1986 a survey of livestock operations will be carried out, programs documented and an action plan formulated.

Work continued on development of the B.C. Assessment Authority Farmclass Property Database, an ARDSA project begun in 1984. The database will be a valuable source of land information for farm properties in British Columbia. Completion is slated for fall of 1986.

Statistics Canada information was used to create a set of B.C. Farm Analysis Files which indicate productivity and performance of various types and classes of farms in 1981. The files can be easily manipulated to give some idea of the impact of policy decisions on B.C. farms.

On behalf of the Provincial Agricultural Land Commission, the Farmland Resources branch administers a portfolio of agricultural lands leased to private farm operators. The security of the long–term leases, often given with an option to purchase, promotes efficient use of government–owned lands, encourages the growth of sound commercial farms and agricultural investment and demonstrates new approaches to agricultural production and development. Millions of dollars worth of agricultural products result from the activities of farm operations on these lease properties.

Direct revenues to government from lease rentals in the 1984/85 fiscal year were $742,940. However, income during the 1985 calendar year increased substantially with the sale of four properties for a total of $1.4 million.

Thirteen new leases were established in 1985, with a variety of agricultural enterprises being started or supported. New product development is encouraged. New leases include kiwifruit and oyster mushroom enterprises.

Rangeland

Increased productivity of rangeland is a key to growth and development in the beef cattle industry. Ministry programs provided technical information to help ranchers improve their management expertise for increased forage production. Staff conducted a number of rangeland improvement and management demonstration projects. A demonstration of nitrogen fertilization on crested wheatgrass showed that annual forage production can be increased three–fold from an application of 65 kg of nitrogen per hectare. The return on investment in fertilizer is calculated at 17 per cent. In another trial of crested wheatgrass seeding rates it was demonstrated that with good management a seeding rate of five kilograms per hectare yielded as much forage as a rate of 10 kilograms. At current seed prices of about $6 per kilogram, seeding costs can be reduced by $28 per hectare.

More than 35,000 acres of depleted grasslands have been seeded with the ministry's rangeland disc and seeder, equipment specially designed for work on rugged terrain. Forage production on seeded sites has increased from less than 200 pounds per acre to 1,000 pounds per acre. This reclaimed grassland is starting to play an important part in providing much needed spring and fall range for the beef cattle industry. The additional forage produced is valued in excess of $1 million per year.

A major rangeland improvement and demonstration

project near Cache Creek was begun in co–operation with the range management branch of the B.C. Ministry of Forests and a private rancher. This demonstration will include seeding, fertilization, fencing and water development.

The containment and control of knapweed, which poses a continuing threat to B.C. rangelands, is a major ministry objective. Some 4,500 hectares were sprayed to contain knapweed spread and a number of biological control agents were distributed for long–term control. The root–boring beetle Sphenoptera was established near Penticton, where it accounted for knapweed seed reduction of 27 per cent. A root–feeding moth, Metzneria, has multiplied and was re–distributed against spotted knapweed near Castlegar. A grant of $80,000 was provided to the B.C. Cattlemen's Association to assist local livestock associations in knapweed control.

POLICY DEVELOPMENT AND ECONOMICS

In 1985, three branches reported to the Executive Director, Policy Development and Economics: the Economics branch, the Farmland Resources branch and the Information Services branch.

The Economics Branch was broken into three functional areas in 1985.

The new Statistics and Quantitative Analysis Unit was formed in 1985 to develop and manage data bases, and to assemble and distribute statistical information to farmers, farm organizations, agribusiness, government policy–makers and researchers. The unit provided information and assistance to various federal and provincial data collectors, and developed integrated economic statistics and performance measures for the food and agriculture sector. Work was expanded on the development of macroeconomic statistics to augment information specific to the industry. New databases were developed on provincial agricultural exports for selected years, on development assistance to agriculture in Canada by province and on the structure of B.C.'s agriculture by region and commodity. Improvements were made in data storage and retrieval procedures to increase use of Ministry equipment and reduce costs.

The new Policy Analysis and Co–ordination Unit was formed to allow greater focus on such issues as federal–provincial programs, inter–ministry programs and B.C. policy initiatives. The new branch also provides computerized management/commodity information to the ministry executive.

The Deputy Minister and branch staff work with industry, federal agencies and educational institutions to develop agricultural policy recommendations. The Deputy is chairman of the British Columbia Agricultural Services Co–ordinating Committee (BCASCC), made up of ministry, university and federal government personnel involved in agriculture. BCASCC subcommittees worked on numerous policy and technical projects and recommended action or funding of research projects. The ministry allocated $150,000 in 1985 to these projects. The Deputy Minister is also involved in co–ordination of government policy through his membership in the Deputy Ministers' Committee on Economic Development and other multi–ministry committees such as the Environment and Land Use Technical Committee.

Strategic planning programs by ministry staff were aimed at identifying appropriate long–term directions for industry development, and supporting government policies and programs, based upon external and internal economic, political, and social factors and changes. Policy analysis services were designed to provide co–ordination within the ministry and government of policies which are aimed at, or have an impact on, the agriculture and food sector. A number of policy issues were addressed, including the financial situation of farmers, debt review boards, capital gains, agribonds and tax legislation affecting part–time farmers.

A major review of British Columbia's farm income stabilization policies was undertaken in response to the introduction of Bill C–25 by the federal government, initiating tripartite stabilization, an income insurance for commodity groups such as beef or hog producers. The plan involves the federal government, provincial governments and producers, and would replace the old Agricultural Stabilization Act payment system. A substantial brief explaining the rationale for the present B.C. system of income stabilization was submitted by the ministry to a parliamentary committee. The federal government has given some consideration to British Columbia agriculture by agreeing to gradual phase–outs of provincial "top–loading" programs, programs that make direct payments to producers. Phase–out of top–loading programs by provincial governments is a condition of participation in the plan. However, the federal government has failed to address B.C.'s concerns regarding the potential of unfair advantage given farmers in other provinces by "bottom–loading" programs, programs which indirectly subsidize agriculture. The federal government has also failed to address B.C.'s concerns regarding regional disparities in costs of agricultural production.

A number of agricultural trade policy issues were analyzed to assist the ministry in preparation for 1986 trade negotiations and provide up–to–date information on agricultural trade irritants involving British Columbia. Related projects included a

seminar in July 1985 on major trade issues, preparation of a series of studies by commodity indicating major changes expected with trade liberalization and a review of federal studies on the topic. The ministry also worked with the Ministry of International Trade and Investment to prepare a B.C. position on agriculture, food and beverage product trade impacts.

In 1985 a new emphasis was placed on farm management in all aspects of ministry advisory and extension activities. The Economics Branch was re–structured in 1985 to focus on farm management, and to assist other extension staff in delivering farm management extension services. Farm management projects and activities help farmers, ranchers and growers of all major commodities increase profitability and productivity by integrating production, marketing and financial management.

Computer workshops showed farmers the effect of various management options on profitability and cash requirements for beef, orchard or grain operations. A number of participants are planning management changes based on what they learned at the workshops. Other farm management activities included liaison between producers and bankers, debt counselling and estate planning.

Planning began for Farm Business Challenges 1986, a major bi–annual conference, at which leading B.C. farmers and representatives of agricultural businesses have the opportunity to hear prominent speakers from Canada, the United States and Europe discuss a variety of business management topics.

The Economics Branch released two major publications, Wills for B.C. Farmers and Farm Labour Management in B.C. Four farm labour seminars were held at Kelowna and Abbotsford.

The Farmland Resources Branch is the ministry branch which coordinates provincial land use planning for agricultural lands, with the goal of maintaining B.C.'s farm land resources.

The branch deals with many issues which may have positive or negative impacts on the ability of farmland to produce food and fibre. Such issues include forest management, rangeland management, wildlife management, water management, oil and mineral exploration and extraction, location of highways, oil and gas pipelines, transmission lines, hydroelectric dams, and land use planning activities of provincial, regional and municipal governments.

The Information Services Branch operates a Media Production Centre in Kelowna which assembles slide–tape shows and videos for farm extension, as well as an information office in Victoria which assists ministry staff in developing appropriate communications techniques, edits and administers the printing of extension and public information publications and performs executive support activities such as speechwriting. In 1985, the branch expanded its library of video–tapes with the addition of 300 new titles. As well, the branch assisted in promotion for Food Pacific '86.

FINANCIAL SERVICES TO AGRICULTURE

The Financial Assistance programs of the ministry encourage growth and development of the agriculture and food sector in British Columbia and reduce selected risks to entrepreneurs. Programs include:

Development incentives–

- direct incentives to encourage investment in the farm and agri–food sector
- assistance to reduce the cost of specific inputs to farm production
- provisions to encourage private financing of high risk, but potentially profitable farm and agri–business investment
- incentives to encourage the development of the infrastructure and support services required by a growing agricultural industry

Risk reduction–

- assistance to reduce the adverse impact of fluctuations in prices and input costs in selected commodities
- assistance to reduce the impact of crop losses due to adverse weather and other uncontrollable risks.

Financial Assistance programs are administered by four branches: Agricultural Credit, Agriculture and Rural Development (ARDA), Farm Income and Crop Insurance, and Farm Products Finance.

In 1985, Farm Products Finance and Agricultural Credit began the process of amalgamation into a new Agricultural Finance branch.

Crop insurance continues to be an important management tool for farmers. Farmers and the federal government share the cost of premiums, while the B.C. government handles all delivery and program administration costs. Major claims in 1985 were paid for low grain yields due to adverse weather, for fruit set failure, for winter damage to strawberry plants and for cold damage to cole

crops. Coverage totalled $85.7 million in 1985, and indemnities paid out exceeded $14.5 million.

The Guaranteed Loan Program makes additional commercial credit available to B.C. farmers by guaranteeing farm loans which have higher risk than commercial lenders are prepared to take. At the end of 1985 there were eight active guarantees totalling $1,019,000 granted to dairy, vegetable, orchard, vineyard and swine operations. Through the Partial Interest Reimbursement Program, 3,726 applicants received rebates averaging 10 per cent of their 1984 interest costs. Cost to the program was $5.215 million.

Under the Agricultural Land Development Assistance (ALDA) program, loans to a maximum of $25,000 are available for work and materials used to permanently improve farmland. In 1985 there were 139 contracts issued for a value of $1,349,432.

On July of 1985 a $40 million five–year ARDSA (Agri–Food Regional Development Subsidiary Agreement) was signed by the British Columbia Ministry of Agriculture and Fisheries and Agriculture Canada. Funds are allocated to specific projects throughout B.C. related to improving production, developing new products and new markets, installation of irrigation and drainage systems, improving soil use and conservation and helping food processing firms expand or modernize their facilities.

TABLE SEVEN

FINANCIAL ASSISTANCE PROGRAM RESOURCES 1985/86

PROGRAM	VOTE	Premiums Grants Incentives ($ Thousands)	*** FTEs	*** Operating Expenses (000's)
Assistant D/M	7	——	2.0	185
Farm Income Insurance	7	31,460	11.0	494
Crop Insurance	7	4,400*	22.3	891
Agricultural Credit	7	8,025	9.0	360
Greenhouse Development	10	2,300	—	136
Farm Products Finance	7	——	4.0	—
Food Industry Development	10	1,000	—	—
ARDA				
– Administration	7	——	15.0	640
– Program	5	6,000	—	—
Livestock Drought Assistance (Prov. Share)	S/W	2,2500**	—	—
Grape Rationalization (Prov. Share)	S/W	2,800**	—	—
TOTAL APPROPRIATION AND SPECIAL WARRANTS		*58,235*	*63.3*	*2,706*

*Note: Crop Insurance premiums are 100 percent recoverable from the federal government.
**Note: Provincial share only shown
***Note: Includes allocations during the year.

TABLE EIGHT

AGRICULTURAL CREDIT ACT GUARANTEED LOAN PROGRAM
ACTIVE GUARANTEES, DECEMBER 31, 1985, BY ENTERPRISE

ENTERPRISE	1974 – 1984 inclusive No.	$000	1985 No.	$000	Total No.	$000
Dairy	25	3,066	2	269	27	3,335
Beef	1	100	0	0	1	100
Grain & Forage	2	300	0	0	2	300
Poultry	5	398	0	0	5	398
Vegetables	6	947	3	510	9	1,457
Orchards & Vineyards	0	0	2	200	2	200
Mixed	7	863	0	0	7	863
Swine	9	599	1	40	10	639
Sundry	11	694	0	0	11	694
TOTAL	*66*	*6,967*	*8*	*1,019*	*74*	*7,986*

TABLE NINE

AGRICULTURAL CREDIT ACT PARTIAL INTEREST REIMBURSEMENT
DISTRIBUTION OF PAYMENTS BY ENTERPRISE

ENTERPRISE	1985 %	$000	1974–1984 %	$000
Dairy	33.8	1,763	28.1	26,349
Beef	18.15	946	22.19	20,804
Poultry	9.78	510	11.18	10,482
Orchards & Vineyards	7.24	378	5.67	5,319
Mixed	5.79	302	11.77	11,035
Sundry*	5.51	287	7.46	6,998
Grain & Forage	5.37	280	5.39	5,051
Berries	5.18	270	.93	863
Swine	4.73	247	3.49	3,269
Vegetables	4.26	222	3.48	3,259
Sheep	.19	10	.34	323
TOTAL	*100.00*	*5,215*	*100.00*	*93,752*

**The mink category has been incorporated into the sundry category.*

TABLE TEN

AGRICULTURAL LAND DEVELOPMENT ASSISTANCE PROGRAM PROGRESS REPORT ON APPLICATIONS – 1985

REGION	Estimated amount	Actual Amount as of December 31, 1985
SOUTH COASTAL		
Land Clearing & Other	$100,000	$242,052.12
Drainage	300,000	47,934.00
Irrigation	350,000	73,938.41
Manure Storage	250,000	146,374.00
TOTAL	*$1,000,000*	*$510,298.53*
THOMPSON – CARIBOO		
Land Clearing	$200,000	$106,909.65
Drainage	100,000	0
Irrigation	300,000	112,252.17
Other	150,000	19,170.00
TOTAL	*$ 750,000*	*$238,331.82*
OKANAGAN – KOOTENAY		
Land Clearing	$ 250,000	$144,422.55
Drainage	300,000	7,000.00
Irrigation	300,000	238,230.48
Other	150,000	39,910.00
TOTAL	*$1,000,000*	*$429,563.03*
CENTRAL		
Land Clearing	$562,500	$262,579.44
Drainage	75,000	0
Irrigation	75,000	18,100.00
Other	37,500	0
TOTAL	*$750,000*	*$280,679.44*
PEACE RIVER		
Land Improvements	$600,000	$343,050.00
Water Development	200,000	10,000.00
Drainage–Erosion Control and Miscellaneous	200,000	7,055.00
TOTAL	*$1,000,000*	*$360,105.00*
TOTAL (ALL REGIONS)	*$4,500,000*	*$1,818,977.82*

TABLE ELEVEN

ARDSA PROGRAM ACTIVITY TO DECEMBER 31, 1985

	Applications Received	Projects Approved	Shareable Costs
Program 1 – Productivity Enhancement	30	4	$403,940
Program 2 – Resource Development	33	0	0
Program 3 – Commodity Development	16	1	213,400
TOTALS	*79*	*5*	*$617,340*

TABLE TWELVE

FARM INCOME INSURANCE PARTICIPANTS

PLAN	Participants 1985	Participants 1984	Increase (+) or Decrease (–) in 1985	
Beef	2,043	2,012	+ 31	
Blueberries	124	127	– 3	
Greenhouse Vegetables	83	89	– 6	
Potatoes	87	99	– 12	
Processing Strawberries	192	176	+ 16	
Processing Vegetables	36	38	– 2	*Repealed November 1985*
Raspberries	294	284	+ 10	
Sheep	99	113	– 14	
Swine	239	190	+ 49	
Tree Fruit	1,696	1,830	– 134	
	4,893	*4,958*	*– 65*	

TABLE THIRTEEN

FARM INCOME INSURANCE DISBURSEMENTS

	1985	1984	
Beef	$9,291,199	$10,454,690	
Blueberry	531,872	(101,510)	
Broiler Hatching Eggs	7,155	0	*Plan expired Dec. 31, 1984*
Greenhouse Vegetables	36,826	314,670	
Potatoes	33,781	480,150	
Processing Strawberries	921,620	765,520	
Processing Vegetables	42,636	200	
Raspberries	(33,475)	587,400	
Sheep	125,577	87,460	
Swine	3,246,166	2,539,050	
Tree Fruit	6,890,312	11,971,760	
Total	*$20,793,669*	*$27,099,450*	

TABLE FOURTEEN

PARTICIPANT IN CROP INSURANCE PROGRAMS

Plan	1985 Insureds	Acres	1984 Insureds	Acres	Increase (+) Decrease (–) Insured	Increase (+) Decrease (–) Acres
Berry	121	3,479	110	2,812	+11	+667
Forage	76	9,407	106	12,866	–30	–3,459
Grain	479	240,621	291	117,744	+188	+122,877
Grape	127	2,616	119	2,143	+8	+473
Tree Fruit	1,557	17,967	1,463	16,662	+94	+1,305
Vegetable	67	5,684	52	6,125	+15	–441
Total	***2,427***	***279,774***	***2,141***	***158,352***	***+286***	***+121,422***

TABLE FIFTEEN

FARM PRODUCT INDUSTRY ACT GUARANTEES AND LOANS OUTSTANDING AS AT DECEMBER 31,1985

Guarantees	December 31, 1985	December 31, 1984
East Chilliwack Fruit Growers' Co–operative	$1,000,000	$1,000,000
Pan–Ready Poultry (1980) Ltd.	—	2,000,000
Scott Poultry Co–operative Association	—	1,004,577
Southern Interior Beef Corporation	280,00	$—
Sub–Total	***$1,280,000***	***$4,004,577***
Loans		
Hodgson Bee Supplies Ltd.	$ 26,000	$29,000
Ra–Bitco Farms Ltd.	110,000	110,000
	$136,000	$139,000
TOTAL	***$1,416,000***	***$4,143,577***

MINISTRY ORGANIZATION AND STRUCTURE

MINISTRY EXPENDITURES

Ministry expenditures for the 1985/86 fiscal year were $72.6 million. Approximate breakdown by administrative unit is shown in Figure 1 (page 5). The financial statements in this report have been prepared by management in accordance with accounting policies adopted by the Province of British Columbia. Management is responsible for the accuracy, integrity and objectivity of the information in these statements. Management maintains extensive internal accounting controls to ensure that transactions are completely and accurately recorded on a timely basis, are properly approved and result in reliable financial statements.

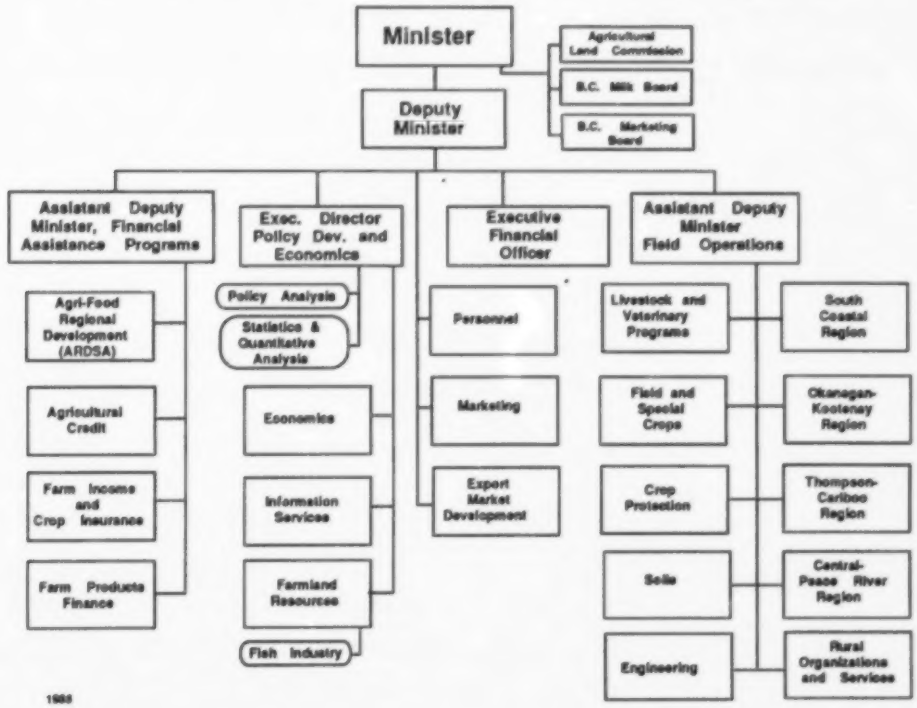
These statements are incorporated in the combined financial statements of the province, which are examined by the Auditor General. The Auditor General expresses an opinion as to whether the combined financial statements present fairly the financial position, operating results and changes in financial position of the Government of British Columbia in conformity with the stated accounting policies. This opinion is contained in the Auditor's Report which is included in the Public Accounts presented to the Legislative Assembly.

MINISTRY STAFFING

Ministry staffing was stabilized in 1985 at 498 full–time equivalents (FTEs) — approximately 314 members of the B.C. Government Employee's Union, 117 members of the Professional Employees' Association and 49 staff excluded from union membership, including managers. There were 184 appointments made, 74 regular and 110 auxiliary. Approximately 70 per cent of ministry staff worked in Field Operations and Specialist and Regulatory Services, and about 10 per cent in Financial Assistance programs. Remaining staff were involved in administration and support services.

FIGURE EIGHT

B.C. MINISTRY OF AGRICULTURE AND FISHERIES ORGANIZATION CHART 1985



A five–member ministry classification committee was instituted to review and recommend classification levels for all staff within the next four years. In 1985/86 approximately 100 group and individual classification reviews were undertaken, 50 per cent of which led to reclassification of the incumbent.

ORGANIZATIONAL CHANGES IN 1985.

In 1985, the ministry made a number of changes in branch organization and in reporting relationships. These changes were designed to increase the ministry's ability to respond quickly to industry needs, and to focus more directly on commodity marketing.

Regional Extension Services and all specialist branches now report directly to the Assistant Deputy Minister – Field Operations. There is no longer an executive director of specialist and regulatory services.

The Marketing Branch now reports directly to the Deputy Minister, as does the newly created Export Market Development Branch.

The Farmland Resources Branch reports to the Executive Director, Policy Development and Economics. Farmland Resources was given responsibility for developing policies and procedures for Aquaculture in the province, after the ministry was designated lead agency for aquaculture.

The Economics Branch functions were split into three areas: a new Policy Development and Analysis unit, a Quantitative Analysis and Statistics unit, and the Economics Branch (which now focuses on farm management extension).

A Rural Organizations and Services Branch was created to handle programs relating to rural community organization and development.

BRITISH COLUMBIA MINISTRY OF AGRICULTURE AND FISHERIES OFFICES

Abbotsford	205 – 33780 Laurel Street V2S 1X4	852-5211
	Engineering Branch, 33832 South Fraser Way V2S 2C5	852-5363
	Agriculture & Food Centre, 32916 Marshall Road V2S 1K2	852-5350
	Chief Veterinarian	852-5370
	Veterinary Laboratory, Box 100 V2S 4N8	852-5400
Burnaby Dairy Laboratory, 3705 Willingdon Avenue V5G 3H3		660-5499
Chilliwack	5 – 8635 Young Road South V2P 4P3	795-8395
Cloverdale	17720 – 57th Avenue, Surrey V3S 4P9	576-2911
Courtenay	209 – 420 Cumberland Road V9N 5M6	334-1239
Cranbrook	202 – 135 10th Avenue South V1C 2N1	426-1535
Creston	456 Northwest Boulevard, Box 1980 V0B 1G0	428-3255
Dawson Creek	1201 – 103rd Avenue V1G 4J2	784-2225
Duncan	238 Government Street V9L 1A5	746-1210
Fort St. John	201 – 9711 100th Avenue V1J 1Y2	787-3240
Kamloops	162 Oriole Road V2C 4N7	828-4552
Kelowna	1873 Spall Road V1Y 4R2	861-7211
Oliver	Court House, Box 940 V0H 1T0	498-6235
Prince George	Experimental Farm Site, R.R. #8, RMD 7 V1N 4M6	565-6466
Quesnel	208 – 350 Barlow Avenue V2J 2C1	992-4241
Salmon Arm	Samara Building, Box 639 V0E 2T0	832-1630
Sidney	Building 20, Saanichton Research Station 8801 East Saanich Road V8L 1H3	656-0941
Smithers	Government Building, Bag 5000 V0J 2N0	847-7246
Summerland*	Summerland Research Station Box 639, Penticton V2A 6P1	494-0401
Vanderhoof	Church Avenue, Box 987 V0J 4K7	567-6311
Vernon	4607 – 23rd Street V1T 4K7	549-5580
Victoria	Minister's Office, Parliament Buildings V8V 2X4	387-1978
	Head Office, 808 Douglas Street V8W 2Z7	387-5121
Williams Lake	540 Borland Street V2G 1R8	398-4500

**Summerland Office moved to Penticton in March, 1987*

New Address:	3547 Skaha Lake Road Penticton, B.C. V2A 7K2	492-1320